



83 ILLINOIS ADMINISTRATIVE CODE PART 411.120 a)

ELECTRIC SERVICE RELIABILITY POLICY

1998 ANNUAL REPORT

JULY 1, 1999

REVISED REPORT

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83 ILLINOIS ADMINISTRATIVE CODE PART 411.120 a)**ELECTRIC SERVICE RELIABILITY POLICY****1998 ANNUAL REPORT****I. GENERAL ASSESSMENT OF ELECTRIC SERVICE RELIABILITY**

During 1998, Illinois Power spent roughly \$12.4 million on vegetation management. The annual expenditure for construction and maintenance on the transmission system was approximately \$16.7 million dollars (\$6.9 & \$9.8 respectively), which represents about 5% of our total transmission investment. The annual expenditure for construction and maintenance on the distribution system was approximately \$115.6 million dollars (\$71.7 & \$43.9 respectively), which represents about 10% of the total distribution investment.

Overall in 1998, the level of service reliability provided by Illinois Power's electric system, decreased. This decrease was due to the increased number and magnitude of storms that affected our service areas. A comparison of the electric system outage history between 1998 and 1997 reveals a 75% increase in weather related outages, a 19% increase due to vehicular and vandalism related outages, and a 34% increase due to forestry related outages. Also, 1,493 customers experienced an interruption due to the actions or inaction's of another utility, ISO, or ARES. However, the number of equipment related outages improved by 1%. This number is significant because an increased number of equipment related outages were anticipated due to the increased magnitude and frequency of storm activity. Attachment 12 lists the percentages of customer interruptions and customer interruption minutes by cause category.

Illinois Power's customers experienced a total of 1,529,293 planned and unplanned interruptions which lasted a total of 6,703,700 hours. The total number of customer interruptions increased roughly 26% in 1998, relative to 1997. This is an average of 263 minutes per customer interruption for both planned and unplanned interruptions. Though some of our customers experienced a slight drop in their level of reliability, recent surveys continue to show that residential customers have favorable perceptions of Illinois Power's efforts to provide reliable service. A reliability grouping of all 4 of the survey results show that 71.3% of our commercial/industrial customers and 75.6% of our residential customers understood our services and billing procedures and thought we provided reliable electric service. The surveys also show that electric service reliability is one of the factors significantly influencing customer satisfaction. Therefore, Illinois Power remains committed to providing reliable electric service. Attachment 13 lists the actual survey questions and their respective results.

II. PAST/EXISTING RELIABILITY IMPROVEMENT PROGRAMS &

ACTIVITIES

The following are examples of customer service and reliability improvements:

- Illinois Power's centralized dispatch center has developed a comprehensive training program for new and existing employees. This program stresses the importance of obtaining detailed and accurate service interruption data from the field. This training improves the accuracy of the data being entered into the Trouble Outage System. The accurate data will allow Illinois Power to make better decisions on how to invest electric system reliability improvement dollars.
- An annual process to proactively review, evaluate, and correct approximately 10% of Illinois Power's distribution circuits for protective device coordination was initiated.
- A method has been developed to critique Illinois Power's effort during the restoration of large scale service interruptions. This feedback will identify good work practices as well as areas which require improvement. This will allow action to be taken to prevent and/or minimize the customer impact of similar outages in the future.
- Standardized crew call-out procedures with an automated callout system have been developed and implemented. This system and procedure have improved the company's outage response times.
- A standardized distribution design project was initiated in 1997. The first two phases of this project involved developing a user-friendly overhead & underground electric distribution construction manual with simplified drawings and fewer construction options. Implementation of standardized designs are expected to both reduce costs and improve reliability.
- Illinois Power representatives continue to work with communities to address specific reliability concerns as they arise.
- A substation animal guarding program has been implemented to install animal prevention equipment (i.e. Raychem Disk) in substations that have a history of animal activity.
- Annual planning projects, such as phase balancing, circuit coordination, and overloaded device replacements/upgrades, are proactively identified and corrected to improve the reliability of the T&D system.
- All of the transmission dispatchers have been certified as system operators in compliance with NERC regulations.

- A reliability strategy has been devised and implemented to manage Illinois Power customer outages according to the recently passed Rule 411 ICC reliability targets. Proactive reports have been created to identify customers who have the potential to exceed these targets. Once these customers are identified actions are taken to improve their level of reliability.
- Field personnel have been informed of all Rule 411 reliability requirements. Training has been completed on what their role is to ensure that IP meets these requirements.
- An extensive mock outage emergency drill has been preformed at all of our service areas. The drill was used to identify and improve the management of large scale outage events to help minimize the amount of time our customers would be without service.

III. NEW PROGRAMS BEING CONSIDERED AND/OR CHANGES TO EXISTING PROGRAMS

Illinois Power is not only developing and implementing new projects and programs, we are drastically changing the philosophy on how we manage the T&D system. The Company is now shifting to a management style of using the ICC reliability indices to proactively identify problem areas on the T&D system and to budget rebuild dollars accordingly. The following are some of the new reliability improvement initiatives or changes to existing programs which are presently being considered or implemented:

- A new electric compliance computer system will be implemented early next year. This system will allow IP to better manage maintenance and procedural work by giving field personnel a better tool to track and schedule maintenance and procedural work. This will assist in improving IP's overall system reliability.
- A Resource Management System will be implemented early next year. This system will allow IP to better manage and schedule our crews and one man trucks as well as it will improve tracking and reporting of completed work.
- In 1999, automated meter reading will be installed and operational in parts of our service territory. This will supply additional outage information that we plan to incorporate into our electronic Trouble Outage System. The data will be used to locate and verify outage information.
- Enhancements are being made to our Trouble Outage System that will improve reporting and tracking of underground outages and problem areas on our underground distribution system. In the past, excessive reporting of underground outages have resulted from the inability to report small (actual) sections of the underground system

that have experienced an outage. This has caused our reliability indices to be inaccurately high.

- A new outage tracking system is being developed to enable field personnel to more easily identify problem areas on the distribution system. This will allow field personnel to perform preventive maintenance thereby, reducing the number of future outages on our distribution system.
- Energy Delivery leadership has initiated the concepts of asset management. Asset management is a business concept which places greater emphasis on how a particular asset group is performing. Once the performance of an asset group is determined, business decisions are implemented to improve the operational as well as financial performance of the asset group.
- A Reliability Centered Maintenance program that focuses on substation work, is being implemented. This RCM process will improve the substation maintenance program by comparing our program to the best practices of other utilities and then enhancing our program accordingly.

IV. ILLINOIS POWER'S RELIABILITY PLAN

The overall cost estimate of Illinois Power's plan is approximately \$238.4 million dollars (expressed in constant 1998 dollars). This estimate is based on the sum totals of the detailed T&D budgets listed in section B) "Illinois Power's Four Year Reliability Plan". Illinois Power continuously monitors and addresses reliability problems on a daily basis. Section B) also lists engineering, construction, and procedural standards and procedures that have been developed to limit IP's exposure and risk to wildlife, forestry, public, weather, and equipment outages. Therefore, the reliability plan's detailed timetable consists of the daily actions that the engineering department, operations department, dispatching, and Central Staff perform to ensure the reliability of our system. In addition, some of the specific reliability projects include completing a Reliability Centered Maintenance (RCM) program for Substations within the next 5 years and starting a RCM program for transmission within the next 3 years. Also, an automated procedural tracking and reporting database is expected to be completed within the next 3 years. See Attachment 14 for a tabular breakdown of specific reliability projects and their estimated completion date.

A. QUALITATIVE & RELEVANT CHARACTERISTICS OF T&D SYSTEM

According to our Trouble Outage System, Illinois Power Company provides electric service to approximately 577,000 customers. Our service territory consists mainly of rural areas and small towns with the majority of our distribution lines providing service to residential, commercial, and agricultural loads. Approximately 91% of our distribution system is overhead conductor with the other 9% being underground conductor. Our service territory is diverse and spread out, requiring roughly a working day to move a crew from our extreme Northern service areas to our most Southern service areas. Illinois Power has formed alliances with nearby contractors like L.E. Meyers and J.F. Electric to supplement the resources that are available to respond to outage emergencies. These alliances help ensure that our customers will experience the shortest outages possible.

Illinois Power is committed to maintain a safe and reliable T&D system. Aerial patrols are performed on all transmission lines twice a year to look for and address safety and reliability concerns. Distribution patrols of ¼ of the circuits are performed yearly to look for and address similar concerns. Substation and system protection equipment is visually inspected at least once a month. IP has an electronic database to track when scheduled substation maintenance work needs to be performed. In 1998, 98% of the scheduled substation maintenance work was completed.

The condition of the T&D system has been classified as aging, but good. This condition estimate was determined from an informal survey of local operations managers (LOM). The LOM's were asked to qualitatively rate the performance of their field locations. They considered the number of reliability related rebuild projects pending approval and the number of reliability related customer complaints when making this decision. They also considered the information gathered from previous transmission aerial patrols and distribution circuit patrols to make this estimation. A condition census (average condition of the responses) was then determined to qualitatively describe the condition of the T&D system. Illinois Power feels that this method of determining a qualitative condition estimate is appropriate because the LOM's are the individuals responsible for maintaining a reliable electric system in their areas. The LOM's are located in field offices, and they have the best information available to them to make this determination.

The average weighted depreciated remaining life of the Transmission and Distribution systems was determined to be 66.2% and 65.9% respectively. See attachment 1 for details on the T&D system's age and how these estimations were computed.

B. ILLINOIS POWER'S FOUR YEAR RELIABILITY PLAN

Rumors of mergers and acquisitions, as well as deregulation of the utility industry, has created operational uncertainty in the Illinois utility industry. However, due to Rule

411, it is clear that utilities will not be allowed to let the level of service reliability degrade as a result of deregulation. Illinois Power realizes that more effort and resources must be focused on providing reliable electric service to Illinois consumers. Illinois Power is committed to finding better and more cost effective ways of performing vegetation management, preventative maintenance, and other reliability projects. Future capital and maintenance budgets are being created with this commitment in mind. From an operational point of view, utilities generally face the same types of challenges to provide reliable delivery service each year. These challenges can usually be grouped into one of the following five categories:

1. Outages caused by weather
2. Outages caused by the condition of equipment
3. Outages caused by wildlife
4. Outages caused by trees
5. Outages caused by the public

Most of the outages each year are due to weather. Illinois Power's construction design standards allow for construction that will withstand the normal weather conditions for this part of North America. Unfortunately, the system cannot economically be designed to withstand the major storms that occur in central Illinois. However, changes to our design standards such as the installation of at least four lightning arrestors per circuit mile will help improve system reliability. Providing better circuit coordination by installing breakers, reclosers, and fuses will also improve system reliability by minimizing the affects of distribution outages.

The failure of equipment, such as poles and conductor, is the second most predominant source of outages. Annual transmission patrols and quadrennial distribution circuit patrols are performed to identify damaged equipment on these systems. Proactive outage reports are generated to identify problem areas on the distribution system. The patrol and outage information is used to identify the problem areas and to develop corrective action plans that will address the reliability concern.

Animals are also a major source of outages. Our design standards call for animal guards to be installed on new equipment to help minimize animal related outages. Also, a program to install animal prevention equipment (Raychem Disks), is being implemented in substations that have a history of animal caused outages.

Trees are another major obstacle for utilities in providing reliable delivery service. Illinois Power has had a proactive vegetation management program in place since 1990. On average, the transmission and distribution circuits are trimmed once every 4 years with the transmission circuits being patrolled yearly to identify problem areas that need immediate attention. It is vital to system reliability to maintain a proper trim cycle. Any major deviation from the cycle can cause system wide reliability problems. It is this concern that has prompted Illinois Power to attempt to resolve the vegetation

management dispute with the city of Bloomington and the town of Normal. Unfortunately, both entities have passed city ordinances that restrict vegetation management activities and a resolution to the vegetation management issue is not expected in the near future. The results of these ordinances will be reliability problems in the Bloomington/Normal area if this issue is not resolved.

The last major cause of outages are those caused by the public. They include outages caused by motor vehicle accidents, vandalism, and other public accidents. These types of outages are virtually impossible to prevent, but IP has provided protective barriers to prevent future outages where practical and feasible. IP also looks at the placement of these facilities and tries to relocate facilities when practical.

1. ILLINOIS POWER'S FIRST YEAR RELIABILITY PLAN

Illinois Power plans on addressing all of the five major sources of outages in its 1999 plan. We will continue to build new designs with adequate lightning and animal protection. Also, we will continue to do preventive maintenance and vegetation management. We expect the 1999 capital distribution budget to be approximately \$23.0 million dollars (*in constant 1998 dollars*), the distribution operating and maintenance budget to be approximately \$26.1 million dollars (*in constant 1998 dollars*), the 1999 capital transmission budget to be approximately \$9.2 million dollars (*in constant 1998 dollars*), and the transmission operating and maintenance budget to be approximately \$6.0 million dollars (*in constant 1998 dollars*). The following is a high level accounting breakdown of what IP plans to spend on some reliability projects (*in 1998 dollars*):

- \$24.1 Million Dollars for Maintaining Existing T&D System
- \$6.5 Million Dollars for Maintaining/Upgrading/Operating Substations
- \$4.0 Million Dollars for Building New Distribution Substations
- \$11.8 Million Dollars for Rebuilds Due to Distribution Condition
- \$12.1 Million Dollars for Vegetation Management

Some of the more specific reliability projects and programs in 1999 will deal with enhancing the Trouble Outage System (TOS) to meet the rules and conditions set forth in the Rule 411 document, establishing systems and reports to better utilize the TOS system to identify problem areas, investigating the use of Reliability Centered Maintenance for substations, creating a procedural database to better track and manage our procedural work, and performing aerial patrols on the transmission system to identify problem areas. Some of the TOS enhancements include rewriting the analysis part of the program that identifies and flags customers for an outage. In the past, we have incorrectly flagged customers as experiencing an outage when they actually had not experienced an outage. In the past, the Trouble Outage System was used to identify problem "areas" of a circuit. These enhancements will allow a greater focus to be placed on evaluating individual

customer problems. The estimated cost of this project in 1999 is expected to be roughly \$19,000 dollars.

Once these data quality issues have been addressed, a system will be developed to allow field personnel to utilize the more reliable trouble outage information to identify, address, and prioritize problem areas on the distribution system. This project's estimated cost in 1999 is expected to be roughly \$57,000 dollars.

Also, a Reliability Centered Maintenance (RCM) program/process is being developed. This RCM process will begin by analyzing Illinois Power's substation maintenance program and comparing it to other utility company programs that are considered, by the industry, as having the best practices. Approximately \$300,000 dollars, in 1999, has been budgeted for the substation RCM study.

Currently, we are working on developing a database that will identify, prioritize, and help schedule procedural work. This system will work for the electric system like the "Gas Compliance" system does for the gas system. It will help ensure that all maintenance items are completed at the appropriate time and will notify various levels of leadership if any item is in danger of not being completed in a timely manner. Both corporate and personal goals have been attached to procedural work and this system will help track and report what areas are meeting those goals. This project's estimated budget in 1999 is expected to be \$200,000 dollars.

Twice a year, all of our transmission lines are patrolled to identify problem areas on lines. They are usually inspected by both a forestry expert and an electric operations expert to proactively identify potential problems to the electric system. This project's estimated cost in 1999 is expected to be \$110,000 dollars.

2. ILLINOIS POWER'S SECOND YEAR RELIABILITY PLAN

Illinois Power plans on addressing all of the five major sources of outages in its 2000 plan. We will continue to build new designs with adequate lightning and animal protection. Also, we will continue to perform preventive maintenance and vegetation management. We expect the fiscal year 2000 capital distribution budget to be approximately \$21.3 million dollars (*in constant 1998 dollars*), the distribution operating and maintenance budget to be approximately \$26.2 dollars (*in constant 1998 dollars*), the 2000 capital transmission budget to be approximately \$6.9 million dollars (*in constant 1998 dollars*), and the transmission operating and maintenance budget to be approximately \$4.8 million dollars (*in constant 1998 dollars*). The following is a high level accounting breakdown of what IP plans to spend on some of the reliability projects (*in 1998 dollars*):

\$20.6 Million Dollars for Maintaining Existing T&D System

\$6.4 Million Dollars for Maintaining/Upgrading/Operating Substations

\$2.8 Million Dollars for Building New Distribution Substations
\$11.8 Million Dollars for Rebuilds Due to Distribution Condition
\$12.0 Million Dollars for Vegetation Management

Some of the more specific reliability projects and programs in 2000 will deal with further enhancing the Trouble Outage System (TOS) to have an up front viewer to better enable system dispatchers to isolate problem areas on a circuit, establishing systems and reports to allow TOS to identify problem areas, further developing/implementing the use of reliability centered maintenance for substations, creating and finalizing the details of the procedural database that will better track and manage procedural work, and to perform aerial patrols on the transmission system to identify problem areas. Approximately, \$500,000 dollars is expected to be budgeted toward developing a TOS up front viewer in 2000. The substation RCM project budget is expected to be \$1,000,000 dollars. The electric procedural tracking system will be in the final design and pilot stages with an anticipated budget of \$200,000 dollars. Historically, the aerial patrol budget has been approximately \$110,000 dollars and plans are to budget a similar amount in 2000.

3. ILLINOIS POWER'S THIRD YEAR RELIABILITY PLAN

Illinois Power plans on addressing all of the five major sources of outages in its 2001 plan. We will continue to build new designs with adequate lightning and animal protection. Also, we will continue to perform preventive maintenance and vegetation management. We expect the 2001 capital distribution budget to be approximately \$18.3 million dollars (*in constant 1998 dollars*), the distribution operating and maintenance budget to be approximately \$26.4 million dollars (*in constant 1998 dollars*), the 2001 capital transmission budget to be approximately \$7.7 million dollars (*in constant 1998 dollars*), and the transmission operating and maintenance budget to be approximately \$4.8 million dollars (*in constant 1998 dollars*). The following is a high level accounting breakdown of what IP plans to spend on some of the reliability projects (*in 1998 dollars*):

\$21.6 Million Dollars for Maintaining Existing T&D System
\$6.5 Million Dollars for Maintaining/Upgrading/Operating Substations
\$2.9 Million Dollars for Building New Distribution Substations
\$10.3 Million Dollars for Rebuilds Due to Distribution Condition
\$12.1 Million Dollars for Vegetation Management

Some of the more specific reliability projects and programs in 2001 will deal with further investigating the use of reliability centered maintenance for substations and transmission facilities. A strong focus is expected to be placed on the RCM project in 2001 and plans are to budget approximately \$1,400,000 dollars. Historically, the aerial patrol budget has been approximately \$110,000 dollars and plans are to budget a similar amount in 2001.

4. ILLINOIS POWER'S FOURTH YEAR RELIABILITY PLAN

Illinois Power plans on addressing all of the five major sources of outages in its 2002 plan. We will continue to build new designs with adequate lightning and animal protection. Also, we will continue to do preventive maintenance and vegetation management. We expect the 2002 capital distribution budget to be approximately \$18.5 million dollars (*in constant 1998 dollars*), the distribution operating and maintenance budget to be approximately \$26.6 million dollars (*in constant 1998 dollars*), the 2002 capital transmission budget to be approximately \$7.7 million dollars (*in constant 1998 dollars*), and the transmission operating and maintenance budget to be approximately \$4.9 million dollars (*in constant 1998 dollars*). The following is a high level accounting breakdown of what IP plans to spend on some of the reliability projects (*in 1998 dollars*):

- \$21.8 Million Dollars for Maintaining Existing T&D System
- \$6.5 Million Dollars for Maintaining/Upgrading/Operating Substations
- \$3.3 Million Dollars for Building New Distribution Substations
- \$9.7 Million Dollars for Rebuilds Due to Distribution Condition
- \$12.2 Million Dollars for Vegetation Management

Some of the more specific reliability projects and programs in 2002 will deal with further developing and implementing the use of reliability centered maintenance for substations and transmission facilities. A strong focus will be placed on the RCM project in 2002 and plans are to budget approximately \$570,000 dollars. Historically, the aerial patrol budget has been approximately \$110,000 dollars and a similar amount will be budgeted in 2002.

C. ISO/ARES/OTHER UTILITY & CUSTOMER COMPLAINTS

Illinois Power strives to address and resolve all concerns and ICC complaints, both formal and informal. Various methods and systems have been implemented to track the different types of complaints/concerns that a customer, ARES, ISO, or other utility may have. The most common method that a concern/complaint is initiated, is through our customer service center. A customer can call and either discuss the issue with a customer service representative (CSR), or leave a message and a CSR will return the customers call. The CSR records the concern on the customers account and based on the type of concern, the computer system will route that concern to the appropriate person or department. At this point, a 48 hour interval is started, where the appropriate company representative is either supposed to resolve the concern with the customer, or is to contact the customer to inform them that this issue is being addressed. We anticipate any ARES, ISO, or other utility complaints/concerns to be filed with our transmission dispatch department (TDD). The TDD is usually the group who deals with or will deal with ISO, ARES, and other utilities on a daily basis and they will try to alleviate the problem as soon as possible.

No formal or informal ARES, ISO, or other utility ICC complaints were experienced in 1998. Most customer concerns were associated with momentary outages. These momentary outages are caused by protective equipment operating correctly to isolate problem areas on the T&D system. Nine customers did file informal ICC complaints. Four of these nine complaints were linked to the same problem. After careful review and analysis of the problem, a determination that a 150 hp motor, owned and operated by the Graymont Grain Co-op, was the source of the problem. The problem was addressed by the installation of a variable frequency drive too soft-start this motor. The other five complaints were associated with customers feeling that they experienced excessive outages or that the duration of the outages were excessive. Most of the outages that these customers complained about occurred during severe storms. These storms subjected the electric system to conditions that exceeded the engineering design limitations. See Attachment 2 for breakdown of ICC reliability complaints/concerns.

V. OUTAGE DATA

The source of the 1998 outage data is Illinois Power's Trouble Outage System (TOS). In addition to improving customer service, the TOS provides Illinois Power with customer specific outage history information. TOS reports the number of customers by counting the number of unique transformers that serve a customer's premise. Therefore, this customer count will be different than the customer count that was filed in Dockets 99-0120 and 99-0134. This is the fifth complete year the system has been on-line in all service areas. Implementation of Central Dispatch and enhancements to the Trouble Outage System are expected to continue to improve the quality, consistency and timeliness of the outage data reporting.

However, limitations in the Trouble Outage System were discovered during a major outage event that happened last June. These limitations caused the system to inaccurately flag customers as being out and to record inaccurate outage duration's. These limitations have been repaired. Unfortunately, not all of the incorrect data could be corrected due to the inability to verify the outage details after the fact. As a result, the system over reported the number of customers being out of service and the length of time those customers were without power during the severe June 29th storm.

A. OPERATING AREA RELIABILITY INDICES

A table showing the achieved level of the System Average Interruption Frequency Index (SAIFI), the Customer Average Interruption Duration Index (CAIDI), and the Customer Average Interruption Frequency Index (CAIFI) for Illinois Power during year 1998 is provided as Attachment 3. The values for CAIDI are presented in minutes per interruption.

The SAIFI was calculated by dividing the total number of customer interruptions by the average number of customers served. If a customer has been interrupted more than

once during the year, each interruption is counted in determining the total number of customer interruptions. The average number of customers served is calculated by counting the number of customers served each month and taking an average of the twelve monthly values.

The CAIDI was calculated by dividing the sum of all customer interruption minutes by the total number of customer interruptions. If a customer has been interrupted more than once during the year, the sum of all interruption minutes is included in the numerator and each interruption is counted in determining the denominator.

The CAIFI was calculated by dividing the total number of customer interruptions during the year by the total number of different customers affected. If a customer has been interrupted more than once during the year, each interruption is included in the numerator. The denominator is determined by counting the customers that have been interrupted and only counting each of those customers once even if they have experienced more than one interruption.

Scheduled interruptions initiated by Illinois Power for repair or maintenance were excluded when calculating the reliability indices. All other "interruptions", as defined by the Policy, are included.

B. WORST-PERFORMING CIRCUITS

The worst-performing circuits in 1998, based on the reliability indices SAIFI, CAIDI and CAIFI, are listed in Attachments 4, 5, and 6 respectively. For the purposes of identifying the worst-performing circuits, only non-scheduled distribution circuit interruptions (i.e., interruptions originating at a point which is between, and including, the circuit interrupting device at the substation and the distribution transformer) were considered in calculating the reliability indices. Illinois Power has 863 distribution circuits. Therefore, nine circuits have been identified for each reliability index. The SAIFI, CAIDI, CAIFI indices were calculated as described above in Section A. OPERATING AREA RELIABILITY INDICES.

Rule 411 specifies that the Annual Report should identify the one percent of all circuits in an operating area with the highest achieved values for each reliability index (or at least one circuit for each reliability index). Rule 411 also defines an operating area as "a geographic area defined by the jurisdictional entity that is a distinct area for administration, operation, or data collection with respect to the facilities serving or the service provided within the geographic area." In the last few years, Illinois Power has moved its engineering, senior management of operations, technology group, material, billing, and customer service departments from 16 different field locations to a central location. We have moved away from the philosophy and management style of 16 different field locations to one centralized operation with respect to data collection, administration, and reliability. With this in mind, we have changed how we define an operating area and

report worst-performing circuits. This change will allow us to more accurately report the worst-performing circuits Company-wide. Now only truly problem circuits will be identified and reported.

C. ACTIONS TAKEN OR PLANNED TO IMPROVE PERFORMANCE

A brief statement of the operating and maintenance history of the circuits identified as worst-performing and a description of actions taken or planned to improve the performance of these circuits is provided in Attachments 7, 8 and 9.

There are numerous operating and maintenance activities which are performed on an ongoing basis throughout the Company. Many of these activities are not discussed in detail in Attachments 7-9. Unless otherwise noted, it can be assumed that the various operating and maintenance activities have been performed for the indicated circuits. Examples of the ongoing operating and maintenance activities include the following:

- The distribution circuits are patrolled once every four years. The purpose of this patrol is to locate and report safety concerns on the primary distribution system. However, circuit condition may also be noted for maintenance planning. Some service areas will also patrol circuits immediately following a major storm. An average circuit takes approximately 10 hours to patrol at an approximate unloaded cost of \$250 dollars.
- The present goal is to perform tree trimming on a four year cycle. In some locations the time between tree trimming is as much as five or six years. Efforts are being made to reduce this trim cycle to a four year cycle and prioritize work Company-wide to ensure emphasis is placed on problem areas.
- Oil circuit reclosers are inspected and counter readings are taken monthly. Every five years line reclosers are replaced and every three years substation reclosers are replaced to insure proper operations of these devices.
- Detailed operating and maintenance procedures have been developed and are followed for substation breakers, voltage regulators, sectionalizing equipment, etc.
- Wildlife and lightning protection equipment is routinely installed in areas or on portions of circuits where animal and lightning related outages have been a problem. Also, wildlife protection is also installed in substations when necessary to improve substation reliability. Although detailed costs are not tracked by circuit for these types of activities, the total estimated cost to install this type of equipment on new transformer installations, in 1998 dollars, is \$327,300 dollars.
- Seven portable substations of various sizes and voltage ratings are available to minimize extended service interruptions due to substation equipment problems.

In most instances, the circuit with the highest value for SAIFI is also the circuit with the highest value for CAIFI. The operating and maintenance history and actions taken or planned to improve the performance of these circuits are only discussed in Attachment 7 (i.e., not repeated in Attachment 9).

Illinois Power's accounting system is not setup to track procedural work and rebuild work dollars by circuit. Therefore, a detailed project cost can not be supplied for each circuit designated as a worst-performing circuit. These costs have been provided whenever it is possible to tie large rebuild projects to a circuit.

D. STATUS OF ACTIONS INDICATED IN PRIOR ANNUAL REPORTS

Specific actions were identified in last year's Annual Report to improve the electric service reliability of the circuits identified as "worst-performing". The status of these actions is provided in Attachment 10 for each circuit by service area.

VI. UTILITY CONTACT FOR ADDITIONAL INFORMATION

The following individual can be contacted for additional information regarding this Annual Report:

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ATTACHMENT 1

T&D AGE ESTIMATION DISCLOSURE

Illinois Power's transmission system is approximately 16.7 years old based on the Company's most recent depreciation study. Based on this study, the transmission system has an average service life of 45 years to 57 years with a remaining life of 27.5 years to 38.6 years. The average weighted depreciated percentage of remaining life for transmission plant is 66.2%.

Illinois Power's distribution system is approximately 12.5 years old based on the Company's most recent depreciation study. Based on this study, the distribution system has an average service life of 21 years to 60 years and a remaining life of 15 years to 45.3

years. The average weighted depreciated percentage of remaining life for distribution plant is 65.9%.

The above depreciation study was approved by the ICC in Docket 91-0147. The original T&D depreciation study was based on the straight line method using the equal life group procedure and the remaining life technique. However, the Order in Docket 91-0147 concluded that the depreciation rates for the Company should be based on average life group procedure. This procedure, while it has no impact on the average service life of the assets, did affect the calculated remaining life, by lengthening the remaining life and thus affecting the imputed age of the system. The calculations in the study were based on attained ages and estimates of survivor curves applicable for each account in the transmission category. A full description of the methodology is described in the depreciation study that was filed in that Docket.

ATTACHMENT 2

ELECTRIC RELIABILITY COMPLAINTS/CONCERNS

YEAR 1998

<u>Customer</u>	<u>Explanation</u>
Bernadine Cage Belleville 9077803116 Frequent outages 6/29/98	System-wide problems identified on circuit. All customers on circuit notified of IP plan for system improvements and modifications were completed in late 1998.
Merna Calabrese	Problems caused by 150 hp motor owned and operated by

Graymont
4572607646
Voltage complaint
3/30/98

Graymont Co-op. Through the joint efforts of the Co-op, motor manufacturer, and IP arrangements were made to complete equipment modifications at the Co-op which eliminated the voltage problem.

Donald Douglas
White Heath
5967859379
Outages
12/4/98

Isolated mechanical failure with 69kv jumper which burnt and caused the outage. Repairs made.

Jennie Heflin
Alexis
Extended outage
9/1/98

Severe storms hit the Northern Illinois region on June 29 which caused widespread outages for an extended period. Customer claim for loss of food was denied.

Thomas Honey
Jacksonville
3926665404
Frequent outages
1/8/98

Outages caused by various factors, including weather, equipment failure, and animal interference. Six (6) outages for six (6) total hours recorded in previous 12 months did not appear excessive.

Randy Mundschenk
Graymont
8677790973
Voltage
5/27/98

See remarks in Merna Calabrese complaint.

Customer

Explanation

Michael Phalen
Mendota
4726395977
Outages
7/7/98

Isolated complaint; replaced terminations and tightened connections around customer premises to help alleviate momentary outages; service restored within 30 min. of complaint.

Peggy Swellen
Graymont
0009442960
Voltage
6/8/98

See remarks in Merna Calabrese complaint.

Paul Schaffer

See remarks in Merna Calabrese complaint.

Graymont
9819697829
Voltage
5/13/98

ATTACHMENT 3**OPERATING AREA RELIABILITY INDICES****YEAR 1998**

OPERATING AREA	SAIFI	CAIFI	CAIDI (Minutes)
Illinois Power	2.44	2.96	267

ATTACHMENT 4**CIRCUITS WITH HIGHEST SAIFI****YEAR 1998**

<u>SERVICE AREA</u>	<u>CIRCUIT</u>	<u>SAIFI</u>	<u>CAIDI (Minutes)</u>	<u>CAIFI</u>
Bloomington	402	7.82	466	6.15
Sparta	935	7.82	117	7.52
Galesburg	144	7.67	802	6.94
Bloomington	342	7.54	265	7.38
Galesburg	175	7.22	668	6.75
Galesburg	117	6.82	567	6.41
Decatur	115	6.62	342	5.76
Mt Vernon	131	6.45	339	6.17
Maryville	368	6.23	245	6.07

ATTACHMENT 5**CIRCUITS WITH HIGHEST CAIDI****YEAR 1998**

<u>SERVICE AREA</u>	<u>CIRCUIT</u>	<u>SAIFI</u>	<u>CAIDI (Minutes)</u>	<u>CAIFI</u>
Galesburg	125	1.23	4,855	1.17
Galesburg	124	1.13	4,124	1.05
Galesburg	122	1.16	3,860	1.08
Galesburg	115	1.80	2,674	1.76
Bloomington	246	1.29	2,626	1.24
Galesburg	112	1.39	2,362	1.38
Galesburg	113	2.60	2,109	2.59
Galesburg	185	0.45	1,928	1.34
Galesburg	171	2.76	1,908	2.28

ATTACHMENT 6**CIRCUITS WITH HIGHEST CAIFI****YEAR 1998**

<u>SERVICE AREA</u>	<u>CIRCUIT</u>	<u>SAIFI</u>	<u>CAIDI (Minutes)</u>	<u>CAIFI</u>
Sparta	935	7.82	117	7.52
Bloomington	342	7.54	265	7.38
Galesburg	144	7.67	802	6.94
Galesburg	175	7.22	668	6.75
Galesburg	117	6.82	567	6.41
Mt Vernon	131	6.45	339	6.17
Bloomington	402	7.82	466	6.15
Maryville	368	6.23	245	6.07
Belleville	269	6.12	314	5.93

ATTACHMENT 7**O&M HISTORY AND ACTIONS TAKEN OR PLANNED TO IMPROVE
PERFORMANCE OF CIRCUITS WITH HIGHEST SAIFI****BLOOMINGTON - CIRCUIT 402:**Operating and Maintenance History

This large urban circuit was last patrolled in 1995 and trimmed in 1997. The average cost of trimming this circuit is \$32,474 dollars. This circuit experienced 31 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 45% Weather, 32% Equipment Failure, 13% Wildlife, 0% Forestry, 13% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2001 & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Also, field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

SPARTA - CIRCUIT 935:Operating and Maintenance History

This average sized urban circuit was last patrolled in 1998 and trimmed in 1995. The average cost of trimming this circuit is \$31,743 dollars. This circuit experienced 29 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 18% Weather, 21% Equipment Failure, 10% Wildlife, 31% Forestry, 21% Other. Approximately 40% of this circuit was rebuilt in 1998 at a cost of about \$250,000.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 1999 & patrolled in 2002. Repairs will be made on an as needed basis. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. We are continuing to monitor and correct voltage problems. Field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

GALESBURG - CIRCUIT 144:

Operating and Maintenance History

This large rural circuit was last patrolled in 1998 and trimmed in 1995. The average cost of trimming this circuit is \$208,692 dollars. This circuit experienced 83 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 52% Weather, 24% Equipment Failure, 16% Wildlife, 2% Forestry, 6% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 1999 & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Also, field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

BLOOMINGTON - CIRCUIT 342:Operating and Maintenance History

This averaged sized urban circuit was last patrolled in 1995 and trimmed in 1998. The average cost of trimming this circuit is \$72,816 dollars. This circuit experienced 44 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 43% Weather, 39% Equipment Failure, 11% Wildlife, 5% Forestry, 2% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2002 & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Reclosers have been installed at the end of the circuit to eliminate exposure back to the substation. Also, some old porcelain disconnect switches were replaced in late 1998. No further action is planned or required.

GALESBURG - CIRCUIT 175:

Operating and Maintenance History

This large rural circuit was last patrolled in 1998 and trimmed in 1995. The average cost of trimming this circuit is \$88,076 dollars. This circuit experienced 68 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 68% Weather, 10% Equipment Failure, 7% Wildlife, 4% Forestry, 9% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 1999 & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Also, field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

GALESBURG - CIRCUIT 117:Operating and Maintenance History

This average size urban circuit was last patrolled in 1996 and trimmed in 1998. The average cost of trimming this circuit is \$9,369 dollars. This circuit experienced 22 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 59% Weather, 27% Equipment Failure, 5% Wildlife, 5% Forestry, 5% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2002 & patrolled in 2000. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Also, field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

DECATUR - CIRCUIT 115:Operating and Maintenance History

This small urban circuit was last patrolled in 1997 and trimmed in 1997. The average cost of trimming this circuit is \$89,702 dollars. This circuit experienced 22 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 27% Weather, 27% Equipment Failure, 27% Wildlife, 9% Forestry, 9% Other. This circuit was affected by a tornado/high wind sheers at the end of June during which our Trouble Outage System may have over reported the number of customers being out of service.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2001 & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. All reclosers were replaced on the circuit and a portion of the main 3 phase feeder line was rebuilt last year. No further action is planned or required.

MT VERNON - CIRCUIT 131:

Operating and Maintenance History

This small rural circuit was last patrolled in 1998 and trimmed in 1996. The average cost of trimming this circuit is \$246,527 dollars. This circuit experienced 38 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 50% Weather, 21% Equipment Failure, 8% Wildlife, 3% Forestry, 18% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2000 & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. A problem 3 phase regulator outside of the substation was replaced with 3 single phase regulator to correct a voltage problem. Field leadership will continue working with the Reliability Engineer to analyze outage history to establish an action plan by July 31st, 1999.

MARYVILLE - CIRCUIT 368:

Operating and Maintenance History

This large rural/urban circuit was last patrolled in 1996 and trimmed in 1998. The average cost of trimming this circuit is \$78,681 dollars. This circuit experienced 61 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 28% Weather, 48% Equipment Failure, 11% Wildlife, 8% Forestry, 5% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2002 & patrolled in 2000. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Approximately, 20% of this circuit was rebuilt last year. Field leadership will continue working with the Reliability Engineer to analyze outage history to establish an action plan by July 31st, 1999.

ATTACHMENT 8

O&M HISTORY AND ACTIONS TAKEN OR PLANNED TO IMPROVE PERFORMANCE OF CIRCUITS WITH HIGHEST CAIDI

GALESBURG - CIRCUIT 125:

Operating and Maintenance History

This small urban circuit was last patrolled in 1995 and trimmed in 1997. The average cost of trimming this circuit is \$2,960 dollars. This circuit experienced 10 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 90% Weather, 10% Equipment Failure, 0% Wildlife, 0% Forestry, 0% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2001 & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. No further action is planned or required.

GALESBURG - CIRCUIT 124:

Operating and Maintenance History

This small urban circuit was last patrolled in 1998 and trimmed in 1997. The average cost of trimming this circuit is \$1,380 dollars. This circuit experienced 4 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 25% Weather, 75% Equipment Failure, 0% Wildlife, 0% Forestry, 0% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2001 & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. The equipment failures were due to bad jumpers on sections of hendrix cable. This problem has been corrected and no further action is planned or required.

GALESBURG - CIRCUIT 122:

Operating and Maintenance History

This average size urban circuit was last patrolled in 1996 and trimmed in 1997. The average cost of trimming this circuit is \$4,100 dollars. This circuit experienced 4 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 50% Weather, 0% Equipment Failure, 0% Wildlife, 50% Forestry, 0% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2001 & patrolled in 2000. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. No further action is planned or required.

GALESBURG - CIRCUIT 115:

Operating and Maintenance History

This small urban circuit was last patrolled in 1998 and trimmed in 1995. The average cost of trimming this circuit is \$27,305 dollars. This circuit experienced 14 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 64% Weather, 21% Equipment Failure, 7% Wildlife, 7% Forestry, 0% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 1999 & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. No further action is planned or required.

BLOOMINGTON - CIRCUIT 246:

Operating and Maintenance History

This small urban circuit was last patrolled in 1998 and trimmed in 1996. The average cost of trimming this circuit is \$47,537 dollars. This circuit experienced 14 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 17% Weather, 36% Equipment Failure, 7% Wildlife, 14% Forestry, 0% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2000 & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Phase balancing was performed in 1998 to improve some loading and coordination issues. More phase balancing is planned in 1999.

GALESBURG - CIRCUIT 112:

Operating and Maintenance History

This large urban circuit was last patrolled in 1995 and trimmed in 1997. The average cost of trimming this circuit is \$71,291 dollars. This circuit experienced 18 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 44% Weather, 33% Equipment Failure, 6% Wildlife, 6% Forestry, 11% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2001 & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

GALESBURG - CIRCUIT 113:

Operating and Maintenance History

This average size urban circuit was last patrolled and trimmed in 1996. The average cost of trimming this circuit is \$37,180 dollars. This circuit experienced 13 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 54% Weather, 31% Equipment Failure, 8% Wildlife, 8% Forestry, 0% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed & patrolled in 2000. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

GALESBURG - CIRCUIT 185:

Operating and Maintenance History

This average size urban circuit was last patrolled in 1995 and trimmed in 1998. The average cost of trimming this circuit is \$36,664 dollars. This circuit experienced 27 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 52% Weather, 30% Equipment Failure, 15% Wildlife, 0% Forestry, 4% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed in 2002 & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Sections of underground primary have been rerouted to help balance the load and customers on the circuit. Field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

GALESBURG - CIRCUIT 171:

Operating and Maintenance History

This large rural circuit was last patrolled and trimmed in 1998. The average cost of trimming this circuit is \$78,890 dollars. This circuit experienced 31 outages in 1998. This circuit has a lot of rural 3 phase exposure. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 58% Weather, 19% Equipment Failure, 10% Wildlife, 3% Forestry, 10% Other.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed & patrolled in 2002. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

ATTACHMENT 9

O&M HISTORY AND ACTIONS TAKEN OR PLANNED TO IMPROVE PERFORMANCE OF CIRCUITS WITH HIGHEST CAIFI

NOTE: SEE ATTACHMENT 7 FOR THE O&M HISTORY AND ACTIONS TAKEN OR PLANNED TO IMPROVE PERFORMANCE FOR THE CIRCUITS WITH THE HIGHEST CAIFI WHICH ARE NOT DISCUSSED BELOW. THE INFORMATION PRESENTED IN ATTACHMENT 7 HAS NOT BEEN REPEATED IN THIS ATTACHMENT.

BELLEVILLE - CIRCUIT 269:

Operating and Maintenance History

This large rural circuit was last patrolled and trimmed in 1995. The average cost of trimming this circuit is \$74,484 dollars. This circuit experienced 28 outages in 1998. The following is a percent breakdown of the types of outages that this circuit experienced in 1998: 50% Weather, 11% Equipment Failure, 7% Wildlife, 18% Forestry, 14% Other. This circuit was affected by a tornado/high wind sheers.

Actions Taken or Planned to Improve Performance

This circuit will be trimmed & patrolled in 1999. Animal guards and lightning protection will be installed on all new transformers to reduce future outages. Field leadership will work with the Reliability Engineer to analyze outage history, causes, etc. and establish an action plan by July 31st, 1999.

ATTACHMENT 10

STATUS OF ACTIONS INDICATED IN PRIOR ANNUAL REPORTS

Attachment 11 shows an indices comparison of last years worst-performing circuits indices between 1997 and 1998.

BELLEVILLE

Circuit 120 - The circuit was split into 2 different circuits to alleviate the reliability problems. Also, the 3 phase extension was provided to add a new source (loop the system).

Circuit 114 - No further action was planned or required.

BLOOMINGTON

Circuit 221 - No further action was planned or required.

Circuit 119 - No further action was planned or required.

CENTRALIA

Circuit 119 - Animal guards were added to problem portions of the circuit.

Circuit 123 - All upgrades were done as stated. No further action required.

CHAMPAIGN

Circuit 415 - A portion of the circuit was rebuilt in 1998. No further action is planned or needed.

Circuit 119 - Some sections of UG were replaced or upgraded as stated. No further action is planned or required.

DANVILLE

Circuit 165 - A set of reclosers was installed to limit the number of momentary outages at the substation and provide better circuit coordination. Also, a radially fed underground trailer park was looped to isolate the underground sections and limit the outage duration times.

Circuit 175 - No further action was planned or required.

Circuit 148 - No further action was planned or required.

DECATUR

Circuit 110 - No further action was planned or required.

Circuit 180 - No further action was planned or required.

Circuit 142 - A large portion of this circuit was tied to circuit 110 in 1997. These customers were not accurately reported on the correct circuit by our Trouble Outage System. Therefore, it made circuit 142 look like a poor performing circuit. The outage problems were caused by an inaccurately set recloser station on circuit 110. This station's settings was recalibrated and this circuit was isolated from circuit 110 both physically and in our Trouble Outage System.

GALESBURG

Circuit 135 - No further action was planned or required.

Circuit 205 - Large 40 pole rebuild was done on this circuit as stated in last years report. No further action was planned or required.

GRANITE CITY

Circuit 298- No further action was planned or required.

Circuit 326 - No further action was planned or required.

HILLSBORO

Circuit 840 - A portion of the circuit was rebuilt in 1998 as stated in last years report.

Circuit 826 - Coordination problems were caused by faulty recloser at the substation. This recloser was replaced. Also, a portion of the circuit was reconductored in 1998.

JACKSONVILLE

Circuit 214 - Animal protection was installed on the circuit in 1998. Also, installed 2 capacitor banks. No further action was planned or required.

Circuit 104 - Animal and lightning protection were installed on this circuit as well as a new regulator station and capacitor bank. No further action was planned or required.

KEWANEE

Circuit 203 - Animal and lightning protection were installed on this circuit as well as a new regulator station. All circuit reclosers were replaced in 1998. No further action was planned or required.

Circuit 312 - Regulator station was installed at the substation as stated in last years report. No further action was planned or required.

LASALLE

Circuit 120 - Portion of circuit was rebuilt last year to improve reliability. No further action was planned or required.

Circuit 513 - No further action was planned or required.

MARYVILLE

Circuit 388 -The circuit feed was rerouted through a more easily accessible area and animal protection was installed on all new and existing transformers. No further action was planned or required.

Circuit 362 - No further action was planned or required.

MT VERNON

Circuit 154 - The spacer cable & UG loop replacements, as identified in last years report, were completed in 1998. No further action was planned or required.

Circuit 170 - Voltage regulator stations were installed on the circuit in 1998. Also, significant amount of phase balancing was performed on the circuit. No further action was planned or required.

OTTAWA

Circuit 522 - The circuit rebuild and substation installation was deferred to 1999. However, we are currently working on rebuilding 19,000 ft of conductor and installing 6.5 miles of new 34.5 kv to serve the new substation. We had to defer the substation because we were not able to acquire property on which to place the

sub. Current plans are to install a portable substation to enhance the system until the substation is built in early 2,000.

Circuit 119 - No further action was planned or required.

Circuit 365 - Problem fuse area was rebuilt and no further action was planned or required.

RIVER BEND

Circuit 351 - Part of the circuit was rebuilt in 1998. No further action was planned or required.

Circuit 343 - No further action was planned or required.

SPARTA

Circuit 918 - No further action was planned or required.

Circuit 903 -Installed lightning protection on circuit in 1998. No further action was planned or needed.

ATTACHMENT 11

PREVIOUS WORST-PERFORMING CIRCUIT INDICES COMPARISON

1997 vs 1998

Area	Circuit	1997 SAIFI	1997 CAIDI	1997 CAIFI	1998 SAIFI	1998 CAIDI	1998 CAIFI
Belleville	120	8.48	144	8.19	2.28	99	2.15
Belleville	114	0.62	1169	1.00	0.00	0.00	0.00
Bloomington	221	6.80	176	6.37	3.01	448	2.83
Bloomington	119	0.07	711	1.00	0.05	379	1.00
Centralia	119	3.20	101	2.97	0.27	455	1.50
Centralia	123	0.03	597	1.44	0.05	106	1.00
Champaign	415	5.66	105	5.38	0.24	58	1.34
Champaign	822	0.02	690	1.00	0.57	277	1.38
Danville	165	2.56	49	2.40	0.97	142	1.49
Danville	175	1.01	401	1.13	0.94	150	1.63
Danville	148	0.66	132	2.79	4.50	432	4.13
Decatur	110	5.49	112	5.27	0.08	121	1.34
Decatur	180	0.69	325	2.09	3.81	170	3.51
Decatur	142	5.46	81	6.18	1.54	149	1.52
Galesburg	135	9.15	208	8.66	5.59	553	5.23
Galesburg	205	1.12	2781	1.05	1.38	148	1.62
Granite City	298	3.50	191	3.40	0.00	0.00	0.00
Granite City	326	0.09	516	1.00	1.48	169	1.30
Hillsboro	840	4.45	156	4.09	0.38	95	1.12
Hillsboro	826	1.15	658	1.12	3.57	156	3.43
Jacksonville	214	3.05	59	3.00	0.71	143	1.37
Jacksonville	104	0.03	324	1.00	1.07	900	1.04
Kewanee	203	5.24	261	4.98	2.95	620	2.77
Kewanee	312	0.46	1832	1.11	0.07	404	1.09
LaSalle	120	7.21	340	6.77	3.46	279	3.23
LaSalle	513	2.46	842	2.31	0.13	131	1.50
Maryville	388	5.22	63	4.89	4.93	124	4.81
Maryville	362	0.87	321	1.08	1.23	548	1.19
Mt Vernon	154	0.82	320	1.62	1.10	149	2.12
Mt Vernon	170	6.55	159	5.85	1.15	42	1.40
Ottawa	522	5.18	319	4.86	4.89	554	4.47
Ottawa	366	0.46	569	1.17	1.35	1,422	1.33
Ottawa	365	3.68	163	6.74	0.68	166	1.17
River Bend	351	2.42	188	2.43	3.21	327	3.11
River Bend	343	1.35	291	1.27	1.36	229	1.27
Sparta	918	1.07	295	1.01	0.11	118	1.00
Sparta	903	5.03	118	4.77	2.15	120	2.03

ATTACHMENT 12

PERCENTAGE BREAKDOWN BY CAUSE

Interruption Cause Category	% of Customer Interruptions	% of Customer Interruption Minutes
Animal Related	7.7	2.5
ARES/Other Utility Related	0.1	0.0
Customer Related	0.0	0.0
Intentional	8.0	6.3
IP/Contractor Error	1.8	0.5
OH Equipment Related	17.6	7.6
Other	2.4	2.6
Public	4.1	1.9
Transmission & Substation Equipment Related	5.8	2.6
Tree Related	4.7	2.9
UG Equipment Related	2.6	1.7
Unknown	2.8	0.7
Weather	42.4	70.8

The above table shows the percentage breakdown for both controllable and uncontrollable causes. Illinois Power did not have the ability to label causes as controllable until December of 1998. Therefore, we will not be able to report "The number and causes of controllable interruptions for the annual reporting period" as requested in section 411.120 b)3)D). However, we will be able to report this information in all future annual reports.

ATTACHMENT 13

RELIABILITY SURVEY RESULTS

SMALL C&I	APPROVAL INDEX
Providing reliable electric service?	76.7
Restoring electric service?	77.4

Reasonableness of electric rates?	50.1
Clear bills?	80.6
Bill payment assistance?	68.5
Small C&I Average Index:	70.7
RESIDENTIAL	APPROVAL INDEX
Providing reliable electric service?	79.6
Restoring electric service?	80.1
Reasonableness of electric rates?	61.0
Clear bills?	80.1
Bill payment assistance?	73.7
Residential Average Index:	74.9
COMBINED MASS MARKET	APPROVAL INDEX
Providing reliable electric service?	78.2
Restoring electric service?	78.7
Reasonableness of electric rates?	55.5
Clear bills?	80.3
Bill payment assistance?	71.1
Combined Average Index:	72.8

ATTACHMENT 14

SPECIFIC RELIABILITY PROJECT TIMETABLE

Reliability Project	Year Initiated	Estimated Completion Year
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Automated Procedural Tracking & Reporting System (4 phases)	1998	2002
Substation RCM Program	1998	2002
Transmission RCM Program	2001	2006
Distribution RCM Program	2003	2008
Enhanced GQL Outage Tracking & Reporting System	1999	2001
Enhancing The Trouble Outage System Dispatching, Tracking, & Reporting	1998	2003